

Memorandum

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To: DISTRICT DIRECTORS
CHIEF, DIVISION OF CONSTRUCTION
CHIEF, DIVISION OF ENVIRONMENTAL ANALYSIS
CHIEF, DIVISION OF ENGINEERING SERVICES
CHIEF, DIVISION OF LOCAL ASSISTANCE
CHIEF, DIVISION OF MAINTENANCE
CHIEF, DIVISION OF PROJECT MANAGEMENT
ALL HOLDERS OF THE HIGHWAY DESIGN MANUAL

Date: May 15, 2007

From: MARK LEJA
Chief
Division of Design

Subject: Design Information Bulletin 85: Guidance for the Consideration of Material Disposal, Staging and Borrow Sites

This transmittal memorandum provides notice that the above referenced Design Information Bulletin (DIB) is now available on the Division of Design (Design) website <http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm>. This DIB is effective immediately for use on all projects that involve material Disposal, Staging or Borrow Sites (DSB).

PURPOSE

DIB 85 provides design guidance for all projects that involve material DSB sites, which may include commercial, private and public lands.

This DIB provides additional guidance to Project Engineers for early consideration of material DSB sites required for transportation improvement projects. Early consideration of DSB requirements and material availability during the project development process is intended to enhance the accuracy of cost estimates for transportation projects.

BACKGROUND

The California Department of Transportation's (Caltrans) business practice has been to require contractors to use commercial or private sources for aggregate or borrow needed for projects. Because Caltrans has experienced a significant escalation in material costs due to dwindling aggregate sources and the high cost of fuel to haul/transport materials from more distant sites, it is intended that the proactive actions described in this DIB will

result in more accurate project estimates and fewer unknowns being relayed to prospective bidders.

Preview of existing guidance on DSBs found that the consideration of staging, disposal and materials site requirements is well documented in the Highway Design Manual, Project Development Procedures Manual, Right of Way Manual, and Construction Manual. However, to reemphasize the opportunities gained with early consideration of DSBs, this single document was developed to provide a summary of existing guidance and references.

IMPLEMENTATION

Effective immediately, proactive consideration of DSBs is to be included in all projects, which have the potential to require such materials or areas for work/disposal, that are not already in advertisement.

The Project Engineer shall consider all applicable information and conduct a comprehensive investigation related to the need for DSBs. Should findings determine that DSB sources are not sufficient to meet the needs of the project, the Project Engineer should initiate investigations to identify designated optional DSB sites.

DISTRIBUTION

It is recommended that copies of this DIB be distributed to Project Delivery Staff. Although this DIB focuses on the Project Engineer to initiate various investigations, there are significant cross-functional considerations that must be coordinated with other staff for successful implementation.

Attachments

- c: Richard Land, Chief Engineer
 - Deputy District Director for Design
 - Deputy District Director for Maintenance and Operations
 - Deputy District Director for Project Management
- Mark Leja
- Tim Craggs
- Linda Fong
- Kevin Herritt
- Mary Beth Herritt
- HQ Design Coordinators
- HQ Design Reviewers

DESIGN INFORMATION BULLETIN NUMBER 85

**California Department of Transportation
Division of Design
Office of Resource Conservation & SMARA**

**Guidance for the Consideration of
Material Disposal, Staging, and Borrow Sites**

APPROVED BY

**MARK LEJA
DIVISION CHIEF
DIVISION OF DESIGN**

May 15, 2007

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1.0 Introduction

This Design Information Bulletin (DIB) 85 provides guidance for the Project Engineer (PE) to effectively initiate proactive measures that will ensure the availability of disposal, staging, or borrow areas (DSB) for transportation projects. These measures should also be applied when temporary plant sites, contractor's yards, access roads, and other similar use areas are needed to support the construction of projects.

DSB sites are directly or indirectly used by the California Department of Transportation (Caltrans) for most transportation improvement projects. Numerous aggregate and mineral products are processed and engineered to provide the required materials for highway embankments, subgrade, roadbed structural sections, structures and all facets of transportation and building infrastructure. Determining the location, capacity, and availability of DSB sites is currently an under-utilized practice during project development. To assure timely delivery of projects, Caltrans must be proactive in identifying the availability of needed DSB sites during the project development process. The resources required to perform the multi-functional tasks associated with this project delivery effort are to be identified by the Project Development Team (PDT), and are to be included in project work plans.

2.0 Background

Caltrans' business practice has been to require contractors to use commercial or private sources for aggregate or borrow needed for projects. Because Caltrans has experienced a significant escalation in material costs due to dwindling aggregate sources and the high cost of fuel to haul/transport materials from more distant sites, it is intended that the proactive actions described in this DIB will result in more accurate project estimates and fewer unknowns being relayed to prospective bidders.

A quality team was formed in 2000 to review Caltrans and Federal Highway Administration (FHWA) policies on DSBs. Team members included Caltrans headquarters and district staff, from multiple stakeholder functions, as well as a representative from FHWA. The team recommended in their Disposal Site Quality Team Final Report, dated September 2001, that Caltrans should pursue appropriate environmental compliance and permit activities to secure designated optional DSB site development during the project planning and development process. The report and the recommendation to develop designated optional DSB sites received formal concurrence by the FHWA Division Administrator in December 2001. Although this recommendation may result in greater Caltrans effort during project development and design, it will help ensure that all projects are biddable and buildable, assure that resource agency requirements are met, and ultimately lead to cost savings in the long term.

Existing guidance on DSB development is detailed in the Highway Design Manual (HDM), Topic 111. Considerations included in this DIB are supplemental to those noted in the HDM, and are based on the recommendations made in Caltrans' Disposal Site

Quality Team Final Report. Full integration of the report recommendations has not yet been completed. This DIB is intended to bridge the gap while the necessary guidance documents and manual modifications are being developed and incorporated.

3.0 Responsibility

The PE, with support and cooperation from the PDT, is the lead for consideration of DSB issues. The PE must initiate, document, and reconcile any DSB constraints during the project delivery process. The PE is responsible for initiating requests for right of way, environmental, and any other studies that are needed in the pursuit of permits. The Project Manager is responsible for securing the resources needed for multi-functional support towards these efforts by inclusion of those resources in the project work plan.

4.0 Assessment of Project or Corridor Need

The assessment of project or corridor DSB needs is best when considered early during project planning studies. Corridor improvement studies should include DSB investigations that consider the forecasted amounts of materials needed for each of the planned corridor projects. This assessment should consider not only the amount of materials needed, but also production rates and the timing of the projects to assure that the materials are likely to be available when the project is targeted for construction, as well as a review of other local developments that may compete for available DSBs. If the PE does not have the benefit of early planning efforts, DSB assessments must be initiated at the earliest possible time in the project delivery process to identify risks and opportunities to the project costs and schedules.

A Materials Report is prepared for all transportation projects that require DSBs. This documentation may be a single report or a series of reports to address various DSB related concerns. The PE is responsible for requesting the Materials Report. The District Materials Engineer can assist the PE in identifying the components to be included in the Materials Report request, when the request should be made, and what information is needed. Project specific DSB requirements should be documented in this Materials Report.

Should the Materials Report disclose that local DSB availability is limited, Caltrans must take proactive actions to establish reliable DSBs within reasonable proximity to the project, or include realistic unit costs that take into account hauling time and transportation costs.

4.1 Disposal Sites

Caltrans construction projects often generate excess soil excavation or concrete rubble that must be disposed of either on or off site. If commercial or local recycling facilities or disposal sites are not adequate or are unable to accommodate excess materials generated by Caltrans' work, designated optional sites should be developed to keep the project on schedule. Caltrans' development of designated optional disposal sites and provisions for appropriate environmental compliance documentation during the project

development process will help ensure that the project is ready to go once the construction contract has been awarded. This is critical to the timely delivery of projects since initiating environmental compliance investigations after the construction contract has been awarded, is likely to result in the contractor having difficulty in obtaining offsite DSBs within the targeted construction time line. This is primarily due to the extensive time involved in conducting environmental studies and obtaining the required permits, agreements, and approvals.

Resource agencies are increasingly requiring identification of DSB sites prior to taking actions (e.g. before issuing Biological Opinions) that are needed to deliver the project. Environmental permits and project approvals are also being withheld or conditioned with requirements that sites be identified and impacts assessed prior to construction. If such permits or approvals are withheld, there can be delays in project delivery milestones such as Project Approval and Environmental Document (PA&ED) and/or the Plans, Specifications, and Estimates (PS&E).

4.2 Staging Areas

The majority of transportation projects require the contractor to locate and set up a temporary yard for storage of equipment and materials, or for a batch plant used in the production of aggregate, asphalt concrete or Portland cement concrete. The PE should consider the need and availability of such sites for contractor's yard and materials plants. Areas large enough to accommodate a contractor's yard are usually more difficult to find in urban areas, while the need to provide for plant sites is more common in the rural areas where commercial material sources can be a considerable distance from the project.

The PDT should have early consultations with Construction staff to help determine the size of the area(s) needed and any special storage or access requirements anticipated for the contractor. This is particularly important in areas where dust, noise, lighting associated with night work, and access problems could limit the contractors' ability to obtain their own sites in a timely manner.

Staging area consideration factors include, but are not limited to:

- the requirement to store materials (including an area for processing materials) or equipment close to the project,
- the volume of material to be processed,
- the distance or travel time from available material sources and additional costs for hauling,
- construction equipment turnaround requirements, and
- the value of time savings or production efficiencies to the overall project

Environmental compliance requirements and local permits must be obtained prior to PS&E. Right of Way, Permits, and Environmental units must be involved early in the investigation of designated optional staging sites since significant processing times are required to secure approvals, permits, and access (see HDM Topic 112). The contractor will be allowed to use these sites only for work on the designated project(s).

4.3 Borrow Sites

Consideration for the corridor's or project's borrow needs should go beyond the requirements for embankment and grading, and include aggregates as well. If the project includes pavement or structural concrete work, identification of the concrete quantity in a contract bid item is not sufficient. Additional consideration must be given to the amount of aggregate needed for these items of work. This is especially critical in those cases where substantial amounts of pavement or structures work are anticipated.

During the early stages of project delivery, the PE should share preliminary borrow, pavement, and aggregate estimates with the Materials Engineer. Material availability and suitability studies must be completed to determine if local material sources can meet the project requirements. If local materials sources cannot meet project specifications or capacity, designated optional material sites should be developed.

Geotechnical Services can assist the District Materials Engineer in evaluating candidate borrow sites by reviewing existing geologic information, conducting exploratory drilling and/or other geological investigations of potential sites. Information from these investigations will assist the District Materials Engineer in listing only those candidate sites that meet Caltrans' requirements for the corridor or project.

5.0 DSB Inventory

An inventory of existing commercial, private, and publicly owned or operated DSB sites should be compiled to document the availability of local resources. The District Materials Engineer should take the lead in compiling this inventory of candidate DSB sites. The inventory should be based on an investigation that includes contacts or inquiries with local property owners, governmental agencies, and maintenance personnel regarding the availability of local sites. Recycling plants and commercial dumpsites should be given high priority in the search for disposal sites. The District Right of Way and Environmental units will have key roles in evaluating/compiling the inventory of available land, (State lands, Federal lands, private lands) that might be candidate disposal, staging, or borrow areas.

It should be noted that the permits pursued by Caltrans will be dependent on whether the designated optional DSBs are developed for a one-time project specific use, or if developed for long-term corridor use. Consultation with the District's Environmental unit will be critical in making the assessment on the required permits to pursue.

5.1 Development of Designated Optional DSBs

If DSB sources are not adequate to meet the needs of the project, the PE should initiate investigations to identify designated optional DSB sites. The PE should consult with District Right of Way concerning appropriately sized nearby Caltrans parcels that are being held for future construction, or for nearby parcels that are owned by others. If such property is available within the vicinity of the project, the District's Environmental unit should be consulted regarding environmental compliance requirements for the parcel's

intended use. The most feasible sites should be identified as potential designated optional sites and evaluated as part of the project's environmental compliance process. Timely requests for environmental investigations are necessary to assure that property acquisitions coincide with the project's construction schedule (see HDM Chapter 100, Topics 111-114; Right of Way Manual Chapter 7.13; and Construction Manual Section Chapter 3 Section 7). Designated optional DSB sites may include existing or new State right of way, private or government lands, or any combination of these.

As referenced earlier in this DIB, the FHWA Division Administrator concurs with the quality team's recommendation to develop designated optional DSB sites to promote the timely delivery of transportation projects.

Should the DSBs be mandatory rather than designated optional and Federal funds are involved in the project, a Public Interest Finding by FHWA must be processed.

As a general rule, the use of designated optional DSBs will be at the discretion of the contractor. Upon award of the contract and within a designated period of time, to be described in the Special Provisions, the contractor should provide notice to the Resident Engineer on whether the designated optional site or an alternate contractor-selected site is to be used.

Any permits necessary for designated optional sites selected as a result of investigations described above should be included among the permits obtained during project delivery. These designated optional DSB sites should not be specifically identified on the plans. Instead, information or documents regarding arrangements made by Caltrans are to be made available to prospective bidders or contractors in the form of "Materials Information" as provided in Section 111.3 of the HDM and Section 2-1.03 and 6-2 of the Standard Specifications.

The following excerpt from the Construction Manual, Chapter 7 Section 1 provides a summary of the general requirements (see <http://www.dot.ca.gov/hq/construc/manual2001> for updates):

For Caltrans Designated Optional DSBs

Caltrans will:

1. Provide a general site plan, including site limits and access roads,
2. Obtain temporary property owner agreements as necessary to "reserve" property,
3. Complete California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA) compliance documentation as needed,
4. Verify the existence of or obtain the necessary permits, licenses, and agreements to satisfy regulatory agencies and ensure site availability, and
5. Review contractor's submittal for approval

The contractor will:

1. Prepare a final grading plan in conformance with Standard Specifications,

2. Provide a release of liability,
3. Provide final property owner agreements (see Construction Manual, Chapter 3 Section 6, "Local Materials"), and
4. Submit Stormwater Pollution Prevention Plan

The contractor retains the discretion to use alternate, environmentally compliant and appropriately permitted sites they believe would save time or money. Should the contractor select alternate sites to those identified by Caltrans, alternate DSB site information will be submitted by the contractor to Caltrans in accordance with Standard Specifications and include the following:

For Alternate DSBs (outside the Right of Way) Selected by the Contractor

The contractor will submit to Caltrans:

1. For borrow sites, demonstrate that the site is exempt or in compliance with Surface Mining and Reclamation Act (SMARA), (that is listed on the AB 3098 (SMARA) eligible list); and
2. For all DSB sites,
 - Provide a site plan, including site limits and access roads,
 - Obtain property owner agreements (see Construction Manual, Chapter 3 Section 6, "Local Materials"),
 - Provide release of liability,
 - Provide final property owner agreement(s),
 - Provide environmental compliance documentation prepared by appropriately qualified environmental specialists,
 - Obtain or update all necessary permits, licenses, and agreements (include supporting environmental documents from appropriate regulatory and governmental agencies, separately obtained by the contractor),
 - Provide final grading plan in conformance with Standard Specifications, and
 - Submit Stormwater Pollution Prevention Plan

Caltrans will:

1. Review the contractor's submittal for approval

References

- 1) California Department of Transportation, *Disposal Site Quality Team Final Report*, September 2001.
- 2) California Department of Transportation, *Construction Manual*, Chapter 3 Section 7 and Chapter 7 Section 1, August 2006.
- 3) California Department of Transportation, *Highway Design Manual*, Chapter 100 Topics 111-114, September 2006.
- 4) California Department of Transportation, *Right of Way Manual*, Chapter 7.13, October 2005.
- 5) California Department of Transportation, *Standard Specifications*, May 2006.

Appendix A

M e m o r a n d u m

To: DEPUTY DIRECTORS
DISTRICT DIRECTORS
DIVISION CHIEFS

Date: December 13, 2001

File: 607

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF DESIGN – MS 28

Subject: Designated Disposal, Staging, and Borrow Sites

This memo describes a new tool available to the Districts for use at their discretion. The California Department of Transportation (Department) and the Federal Highway Administration (FHWA) have determined that, on those construction projects which cannot accommodate the disposal, staging, or borrow (DSB) material needs of the project, the District now has the option to identify and clear designated sites, making them available for the contractor's use. Even when the District chooses to make use of this tool, the contractor will continue to have the flexibility to use alternative sites, upon approval of a DSB site submittal, as outlined in this memo.

Department construction projects often require contractors to make use of off-site lands and facilities for the disposal of excess materials, the acquisition of necessary borrow materials, and to stage equipment, store supplies, and to house their offices. Current contract documents generally require the contractor to show that these sites comply with all local, state and federal environmental and permitted use regulations. However, recent history has shown that in some geographic locations there have been issues regarding final compliance responsibility. To resolve these issues and to foster better interagency cooperation, the option of designating DSB sites has been made available. Some Districts may choose to employ this tool on all or a majority of projects, some may choose to use it sparingly, others may determine that it does not provide an advantage and choose not to use it at all.

This memorandum provides additional guidance to Index 111.1 of the Highway Design Manual (HDM) until superceded by an update to the HDM and Project Development Procedures Manual (PDPM), or by a subsequent Design Memorandum. Until Headquarters Division of Engineering Services - Office Engineer (ES-OE) issues new Standard Specifications on this issue, the District Office Engineer should work closely with ES-OE to ensure that the appropriate Special Provisions are developed for jobs containing designated DSB sites and that they are approved by ES-OE. Early communication with ES-OE on projects involving designated DSB sites is encouraged.

Deputy Directors
District Directors
Division Chiefs
December 13, 2001
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The need for identifying and clearing a designated DSB will generally be made on a case by case basis, considering historical and geographical issues and practices, project design requirements, environmental concerns, economic factors, and other aspects specific to projects and their locale. During project development, the Project Engineer will investigate the existence of sites readily available for use by the contractor. This investigation should include, but not be limited to, commercial dumpsites, recycling plants, private property and other local sites. If it is determined that one or more DSB sites will be designated, the District will evaluate the proposed sites during the environmental review process, and if necessary, include them in the environmental compliance documentation. To ensure their availability to the contractor, right of way agreements should be obtained for private sites selected as designated DSB sites. The District may choose to maintain an inventory of cleared sites for designation.

Any necessary permits for DSB sites selected as a result of this process will be included among those obtained during PS&E development. Information or documents regarding arrangements made by the Department to ensure the availability of designated sites will be made available to prospective bidders or contractors in a Materials Information handout as provided in Index 111.3 of the Highway Design Manual and Section 1.02 of the Standard Specifications.

Contractor use of designated sites is not mandatory unless otherwise stated in the special provisions. If the contractor chooses alternate sites which they feel would save time or money, a DSB site submittal must be made by the contractor and approved by the Department.

Attached to this memorandum are: 1) a summary of the minimum items expected in a DSB submittal for Department site designation, 2) a summary of the minimum items expected in a DSB submittal from a contractor for use of an alternate site, and 3) decision tree to assist in the understanding of the DSB submittal process.

*Original signed by
Karla Sutliff*

KARLA SUTLIFF
Chief
Division of Design

Attachments

FOR CALTRANS DESIGNATED SITES

CALTRANS WILL:

- Provide a general site plan, including site limits and access roads
- Obtain temporary property owner agreements as necessary to "reserve" property
- Prepare CEQA/NEPA environmental documentation as needed
- Verify the existence of or obtain the necessary permits, licenses, and agreements to satisfy regulatory agencies and ensure site availability
- Review and approve contractor's submittal

THE CONTRACTOR WILL:

- Determine final grading plan in conformance with Standard Specifications
- Provide release of liability
- Provide final property owner agreements
- Submit Water Pollution Control Plan

FOR ALTERNATIVE SITES (OUTSIDE THE ROW) SELECTED BY THE CONTRACTOR

CALTRANS WILL:

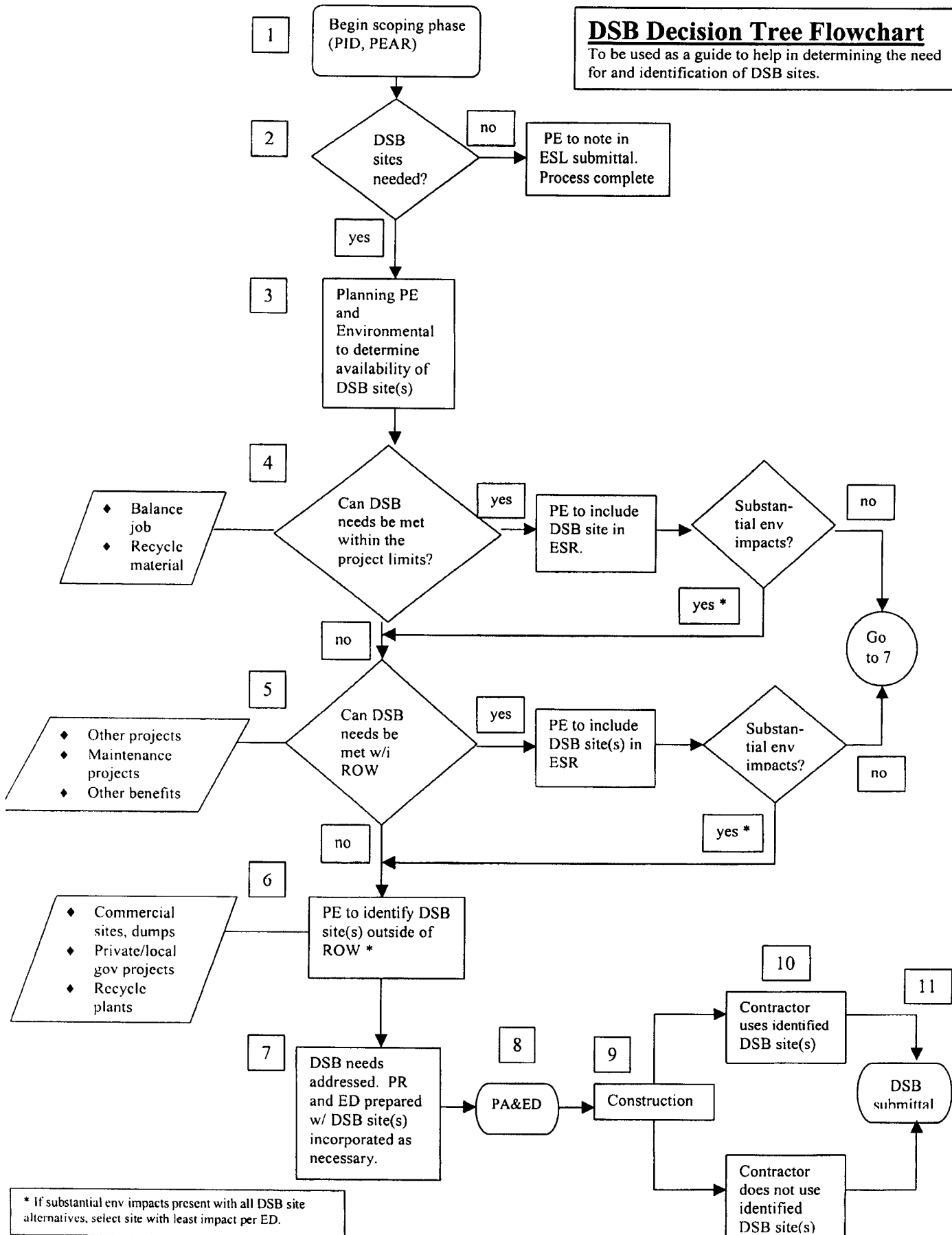
- Review and approve contractor's submittal

THE CONTRACTOR WILL:

- Provide a site plan, including site limits and access roads
- Obtain property owner agreements
- Provide release of liability
- Provide final property owner agreements
- Provide environmental documentation prepared by appropriately qualified environmental specialists
- Obtain or update all necessary permits, licenses, and agreements
- Determine final grading plan in conformance with Standard Specifications
- Submit Water Pollution Control Plan

DSB Decision Tree Flowchart

To be used as a guide to help in determining the need for and identification of DSB sites.





U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CALIFORNIA DIVISION
980 Ninth Street, Suite 400
Sacramento, CA. 95814-2724
November 21, 2001

IN REPLY REFER TO
HDA-CA
Document #: S37326

Mr. Jeff Morales, Director
California Department of Transportation
1120 N Street
Sacramento, California 95814

Attention: Federal Resources Branch, Room 3500
For Brent Felker, Chief Engineer

Dear Mr. Morales:

SUBJECT: DISPOSAL SITE QUALITY TEAM FINAL REPORT CONCURRENCE

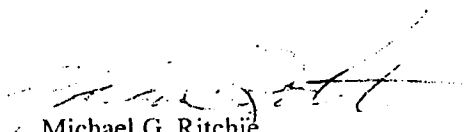
We have reviewed the Disposal Site Quality Team Final Report and your November 5, 2001, letter requesting The Federal Highway Administration's (FHWA) concurrence with the Disposal Site Quality Team Final Report. We concur with the findings of the report and are enclosing the original transmittal letter signed by the FHWA California Division Administrator for your files.

We have noted that Section 5A of the Final Report, "Implementation with FHWA," does not reflect the most current information available. The FHWA's legal counsel has now completed its review and has determined that the recommendations in the report do not violate existing FHWA policy. Also, the FHWA California Division Administrator and Assistant Division Administrator have met with California Department of Transportation management regarding the acceptance and implementation of the proposal, and are in agreement on its implementation.

Rather than revising the report to reflect this current information, we recommend that this letter be included as an addendum to the Disposal Site Quality Team Final Report. Please include copies of this letter with the reports when they are distributed.

If you have any questions or comments, or if you need further assistance, please call David Nicol, Assistant Division Administrator, at (916) 498-5015 or e-mail "David.Nicol@fhwa.dot.gov."

Sincerely,


Michael G. Ritchie
Division Administrator

DEPARTMENT OF TRANSPORTATION

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*Flex your power!
Be energy efficient!*

November 5, 2001

Mr. Michael Ritchie
Division Administrator
Federal Highway Administration – California Division
980 9th Street, Suite 400
Sacramento, CA 95814-2724

Dear Mr. Ritchie:

Subject: Disposal Site Quality Team Final Report

I am pleased to present you with the final report of the Disposal Site Quality Team. The Disposal Site Quality Team was formed to identify and resolve the issues and concerns associated with identification and use of disposal, borrow, and staging areas used for Caltrans construction projects. The mission statement for the team was:

"To effect project delivery process changes which allow use of borrow, disposal, and staging areas during construction in a manner that facilitates permitting and environmental compliance, is cost effective, and avoids project delays."

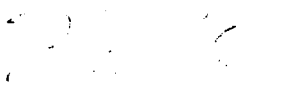
The Team, which included the Federal Highway Administration (FHWA), dedicated many hours of work over the past year. This report represents a sound solution to a complex issue. Implementation of the recommendations will enhance resource agency relations, decrease costs, and improve delivery of FHWA funded projects.

Successful implementation of the Team's recommendations is highly dependent on your concurrence. To that end, the report incorporates comments from your staff, including the California Division, Chief Legal Counsel. With your concurrence below, we will move forward with implementation of the plan.


Mr. Michael Ritchie
November 5, 2001
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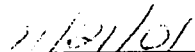
I want to thank you and your staff for supporting and participating in such a tremendous effort. We look forward to the cost savings and resulting improvements in our project delivery process.

Sincerely,


BRENT FELKER
Chief Engineer

Concurrence


MICHAEL RITCHIE
Division Administrator
Federal Highway Administration - California Division


Date